

INTISARI

Replantasi segera setelah gigi mengalami avulsi akibat kegiatan olahraga seringkali tidak dapat dilakukan, sehingga diperlukan media penyimpanan gigi avulsi untuk menjaga viabilitas sel fibroblas jaringan periodontal sebelum replantasi dapat dilakukan. Media penyimpanan gigi avulsi yang ideal yaitu *Hank's Balanced Salt Solution* (HBSS) seringkali tidak tersedia dan harganya relatif cukup mahal sehingga, diperlukan media penyimpanan gigi avulsi alternatif yang mudah didapat di lokasi olahraga. Larutan isotonik *Pocari Sweat*[®] merupakan minuman yang memiliki kandungan mirip HBSS dan mudah didapatkan di lokasi olahraga. Penelitian ini bertujuan untuk mengetahui apakah *Pocari Sweat*[®] dapat digunakan sebagai media penyimpanan gigi avulsi alternatif di lingkungan olahragawan dengan uji sitotoksitas menggunakan *Microtetrazolium* (MTT).

Penelitian dilakukan menggunakan 9 spesimen yang dibagi menjadi 3 kelompok, yaitu kelompok A (*Hank's Balanced Salt Solution*), kelompok B (isotonik *Pocari Sweat*[®]), kelompok C (*Dulbecco's Modified Eagle's Medium*). Uji sitotoksitas dilakukan dengan melihat nilai viabilitas dari kelompok A dan B. Nilai viabilitas didapatkan dengan cara membagi nilai *optical density* kelompok A dan B dengan nilai *optical density* kelompok C. Nilai *optical density* didapati dengan cara melihat kristal formazan yang terbentuk dari sel hidup setelah dipapar oleh *Microtetrazolium*. Data rerata viabilitas kemudian dihitung dan dianalisis menggunakan uji nonparametrik *Mann-Whitney U Test*.

Hasil *Mann-Whitney U Test* menunjukkan nilai *Asymp. Sig. (2-tailed)* sebesar 0,000 ($p < 0,05$) yang berarti terdapat perbedaan viabilitas pada larutan HBSS dan isotonik *Pocari Sweat*[®]. Berdasarkan penelitian ini dapat disimpulkan terdapat perbedaan rerata viabilitas pada larutan HBSS dan isotonik *Pocari Sweat*[®] dengan tidak merekomendasikan isotonik *Pocari Sweat*[®] sebagai media penyimpanan gigi avulsi alternatif dikarenakan larutan tersebut sitotoksik.

Kata Kunci: *Pocari Sweat*[®], HBSS, viabilitas, uji sitotoksitas *Microtetrazolium* (MTT).

ABSTRACT

Replantation as soon as the tooth is avulsed due to sport activity is often not possible, so avulsion tooth storage media is needed to maintain viability of periodontal tissue fibroblasts before replantation can be performed. The ideal avulsion storage media, Hank's Balanced Salt Solution (HBSS) is often not available and if it's available the price is relatively expensive, so an alternative avulsion tooth storage media is easy to obtain at sport locations. The isotonic solution Pocari Sweat[®] is a beverage that has a HBSS-like content and is easily available at sports locations. This study aims to determine whether Pocari Sweat[®] can be used as an alternative storage media for avusal teeth in an athletic environment with a cytotoxicity test using Microtetrazolium (MTT).

This study was conducted using 9 specimens devided into 3 groups, namely group A (Hank's Balanced Salt Solution), group B (isotonic Pocari Sweat[®]), group C (Dulbecco's Modified Eagle's Medium). Cytotoxicity test done by looking at the optical density values of group A and B. The viability value is obtained by dividing the optical density values of groups A and B with the optical density values of group C. The optical density values are found by looking at formazan crystals formed from living cells after exposure to Microtetrazolium. Mean viability data were then calculated and analyzed using the Mann-Whitney U Test nonparametric test.

The Mann-Whitney U Test result indicate the Asymp. Sig.(2-tailed) of 0,000 ($p < 0,05$) which means there is a difference in viability in the HBSS and isotonic Pocari Sweat[®] solution. Based on this study, it can be concluded that there are differences in the average viability of the HBSS and isotonic Pocari Sweat[®] as an alternative storage media for avulsed teeth because the solution is cytotoxic.

Key words: Pocari Sweat[®], HBSS, viabilitas, cytotoxicity test of Microtetrazolium (MTT)